REMARKS

Formal Matters

Claims 2-6 and 20-27 are pending after entry of the amendments set forth herein.

Claims 2-6 and 20-27 were examined.

Claims 2-6 and 20-27 were rejected.

Applicants respectfully request reconsideration of the application in view of the amendments and remarks made herein.

No new matter has been added.

The Telephone Interview

Applicants wish to extend their appreciation to the Examiner for the courtesy provided to Applicants' representative during the telephone interview of June 14, 2011. During the Interview, it was agreed that amendment of claims 2, 24 and 25 to include the step of providing a fluid source would not present a new issue, but would serve to further clarify the claims as to positive recitation of a fluid source. Accordingly, the Examiner indicated that this amendment would be entered. The Examiner further indicated that this amendment places the present application into condition for allowance.

This account is believed to be a complete and accurate summary of the interview as required by 37 C.F.R. § 1.133. If the Examiner believes that this summary is inaccurate or incomplete, Applicants respectfully request that the Examiner point out any deficiencies in her next communication so that Applicants can amend or supplement the interview summary.

The Office Action

Claims Rejected Under 35 U.S.C. Section 103(a) (Aboul-Hosn in view of Wang)

In the Official Action of March 15, 2011, claims 2-6 and 20-27 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over Aboul-Hosn, U.S. Patent No. 6,858,001 in view of Wang, U.S. Patent No. 6,106,497.

Regarding claims 2 and 24, the Examiner asserted that these claims had not positively recited a fluid source.

Applicants respectfully traverse. Applicants respectfully submit that claim 2, prior to the above amendments, had recited "the fluid conduit being in communication with a fluid source", and that claims 24, prior to the above amendments had recited "the fluid delivery conduit being in fluid communication with a fluid source". It is respectfully submitted that both of these phrases positively recite a fluid source. However, in order to even more clearly address the Examiner's concerns, claims 2, 24 and 27 have been amended to recite a step of providing a fluid source. Applicants respectfully submit that such should not be necessary, as a fluid source was previously positively recited as noted above, and that a step f maintaining the fluid deliver conduit in communication with the fluid source during said introducing, said operating and said delivery fluid steps had been previously recited. Accordingly, it is respectfully submitted that the above-mentioned amendments do not present a new issue, as the claims had previously recited the issue of maintaining communication between the fluid delivery conduit and the fluid source.

The Examiner further asserted that it is reasonable to interpret the outer conduit of Aboul-Hosn as both a fluid delivery conduit and a supply conduit located between the fluid delivery conduit and a fluid source.

Applicants respectfully traverse. Applicants respectfully submit that the Examiner is essentially attempting to define a single conduit as two conduits. It is respectfully submitted that this is an unreasonable interpretation. Applicants have recited a fluid delivery conduit as well as a supply conduit because there are two conduits concerned, e.g., see conduit 20 interconnecting conduit 12 with fluid source 14 at Fig. 6.

The Examiner referred to column 5, lines 44-46 of Aboul-Hosn, which disclose that after placing the pump 50 in the outer conduit 30, the outer conduit 30 is filled with a saline solution. From this the Examiner concluded that Aboul-Hosn clearly suggests that the fluid delivery conduit 30 is capable of maintaining in communication with a fluid source external of the fluid delivery conduit 30.

Applicants strongly traverse. First, Applicants respectfully submit that it is irrelevant whether or not the conduit 30 "is capable of maintaining in communication with a fluid source", as the claims are method claims, not device claims. It is respectfully submitted that the Examiner's argument is one that is directed to "intended use", which is applicable to a device claim, but not to a method claim. That it, the very essence of a method claim is use, therefore the hardware in the reference must be disclosed to be used in the manner claimed, or suggest such use. Second, Applicants respectfully submit that the system of Aboul-Hosn, as disclosed, is not capable of maintaining communication with an external fluid source during operating the pump and delivering fluid, contrary to the Examiner's assertions. Aboul-Hosn discloses at column 5, lines 45-52 that, after priming the pump 50, if necessary, air is completely removed from the pump 50 and the outer conduit 30, and the driving unit 80 is then installed over the proximal end of the pump 50. A silicone seal or similar hemostasis valve must be used to seal the outer conduit 30 if the driving unit 80 is located externally. Accordingly, it is respectfully submitted that the conduit 30 is sealed off during use and, contrary to the Examiner's assertion, the conduit 30 is not capable of remaining in communication with an external fluid source during use. Rather, the saline is only supplied as a preliminary step, during setup of the apparatus.

The Examiner further asserted regarding claim 2 and 24, that Aboul-Hosn discloses that the fluid delivery conduit may be sealed by the use of a silicone plug or similar hemostasis valve. Applicants acknowledge this disclosure and note that such a seal is used when the driving unit is located externally, see column 5, lines 50-52 However, Aboul-Hosn does not disclose introducing an intake cannula through the silicone plug or similar hemostasis valve, nor would it have been obvious to do so. The cannula 20 extends distally of the motor 50, but not proximally thereof, that is, cannula 20 does not extend between motor 50 and driving unit 80, e.g., see Fig. 1. Further, Aboul-Hosn discloses that the motor 50 is first inserted into the conduit 30, prior to sealing it. Accordingly, this precludes cannula 20 from being inserted through the silicone plug/hemostasis valve, as such plug/valve is installed only after the cannula 20 and motor 50 have been installed in the conduit 30.

The Examiner asserted that Fig. 7 of Aboul-Hosn discloses a fluid delivery conduit 30 with saline solution, while the intake cannula 20 removes fluid/blood. The Examiner admitted that Aboul-Hosn fails to disclose or teach intaking blood from the left ventricle through the cannula 20, but asserted that it would have been obvious to modify the apparatus of Fig. 7 of Aboul-Hosn to provide apertures in the intake cannula 20 when the intake cannula 20 is disposed in the ventricle, for purposes of expelling blood therefrom, thereby preventing air embolism during a heart procedure.

Applicants respectfully traverse. The Examiner did not explain how putting apertures into the cannula 20 would prevent an air embolism from occurring, and Applicants do not understand how this would be achieved. Further, it is respectfully submitted that placement of apertures in conduit 20 would cause blood form the left ventricle to be drawn in through the apertures at the same time that blood is drawn in from the left atrium through the distal end opening of the conduit 20.

Regarding claim 25, the Examiner repeated the conclusion that column 5, lines 44-46 clearly suggest that the fluid delivery conduit 30 is in communication with a fluid source. Applicants respectfully traverse. It is respectfully submitted that Aboul-Hosn uses saline to initially remove air from the pump and outer conduit, and to prime the pump, if necessary, see column 5, lines 45-47. However, there is no disclosure by Aboul-Hosn of providing a fluid source that is external of the intake cannula. It is respectfully submitted that Fig. 1 of Aboul-Hosn appears to indicate that no such fluid source exists.

Accordingly, in view of the above amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 2-6 and 20-25 under 35 U.S.C. Section 103(a) as being unpatentable over Aboul-Hosn, U.S. Patent No. 6,858,001 in view of Wang, U.S. Patent No. 6,106,497, as failing to set forth a prima facie case of obviousness.

Conclusion

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-2653, order number 9261.16661-PCT-US-DIV.

Respectfully submitted,
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